

A NEW SPECIES AND A NEW RECORD OF THE GENUS TOMOCERUS NICOLET (COLLEMBOLA, TOMOCERIDAE) FROM CHINA

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Abstract A new species and a new record of the genus *Tomocer* Nicolet are described from China. The new species, *Tomocer* (*Tomocer*) *maculatus* sp. nov. is different from other species in the genus in the arrangement of proximal dental spines and color pattern on antennae, head and body.

Key words Collembola, Tomoceridae, *Tomocer*, new species, new record, China.

A new species and a new record of the genus *Tomocer* were found during the examination of the specimens collected from Jilin Province and Tibet, China. They are *Tomocer* (*Tomocer*) *maculatus* sp. nov. and *Tomocer* (*Tomocer*) *asoka* Yosii et Ashraf, 1965. The specimens are mounted on slides and deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS).

The terminology follows Yosii (1967). Measurements are in millimeters (mm).

1 *Tomocer* (*Tomocer*) *maculatus* sp. nov. (Figs. 1-10, Table 1)

Body length 2.3-3.1 mm (Fig. 1).

Color. Ground color pale yellow. Eye patches purple. Distal 3/5 of antennal segment pale purple. Irregular purple pigment scattered on head, lateral margin thoracic segment, and . Deep purple bands present on abdominal segments of, and .

Head. Eyes 6 + 6, almost subequal. Antennae 0.67-0.77 times as long as body and 3.5-4.4 times as long as head. Ant. and annulated. Ratios of Ant.

- = 1.0 1.75-2.2 6.75-8.0 2.5-2.8. Dorsal macrochaetae of head as shown in Fig. 2. Thirty-five setae present on dorsal posterior head. Labral setae 4/5, 5, 4, all smooth; each of distal 3 rows beset on papilla. Anterior margin of labrum with 4 recurved spines (Fig. 3).

Thorax. Macrochaetae and bothriotricha as shown in Fig. 4. Tibiotarsus with numerous pointed smooth setae of different length; ventral side with 6, 6, 5-6 large blunt spiny setae respectively on legs - (Fig. 6). Unguis slender; a pair of pseudonychia well developed, 0.38-0.47 times as long as inner edge of unguis; inner teeth 5-6, 5-6 and 5-6 respectively on leg -. Unguiculus lanceolate without inner tooth or outer tooth.

Tenent hair thick, 0.77-0.85 times as long as inner edge of unguis, apex spatulate (Fig. 7). Trochanteral organ reduced to 1, 1 seta (Fig. 5).

Abdomen. Tenaculum unscaled, with 4 + 4 teeth, and 6-7 smooth setae on corpus (Fig. 8). Ventral tube unscaled, anterior, posterior and lateral sides with numerous large and small setae.

Ratios of manubrium/dens/mucro = 2.86-3.33/4.22-4.57/1.0. Manubrium scaled, with 10-11 large setae on each dorsolateral side, all mildly ciliate and sharply tapered near apex. Dentes without large seta on outer edge and basal scalelike spine on inner edge. Dental spines of simple type, formula as 6-7/7-9, , pale yellow (Fig. 9). Mucro elongate covered with numerous ciliate setae; outer basal tooth with a corner toothlet. Outer dorsal lamella with 5-7 intermediate minute teeth; apical and anteapical teeth subequal (Fig. 10).

Holotype, China, Jilin, Changbai Mountain (42.0°N, 128.1°E), 1100 m, 3 Aug. 1980, collected by HUANG Fu-Sheng (IZCAS). **Paratypes**: 1, same data as holotype (IZCAS); 1, China, Jilin, Erdao baihe (42.4°N, 128.1°E), 700 m, 4 Aug. 1981, collected by HUANG Fu-Sheng (IZCAS).

Etymology. The name refers to the bands on Abd., and .

Remarks. This species is similar to *T.* (*T.*) *vidaceus* Yosii, 1956, but can be separated from the latter by the characters listed in Table 1.

2 *Tomocer* (*Tomocer*) *asoka* Yosii et Ashraf, 1965 (Figs. 11-20)

Tomocer (*Tomocer*) *asoka* Yosii et Ashraf, 1965: 54.

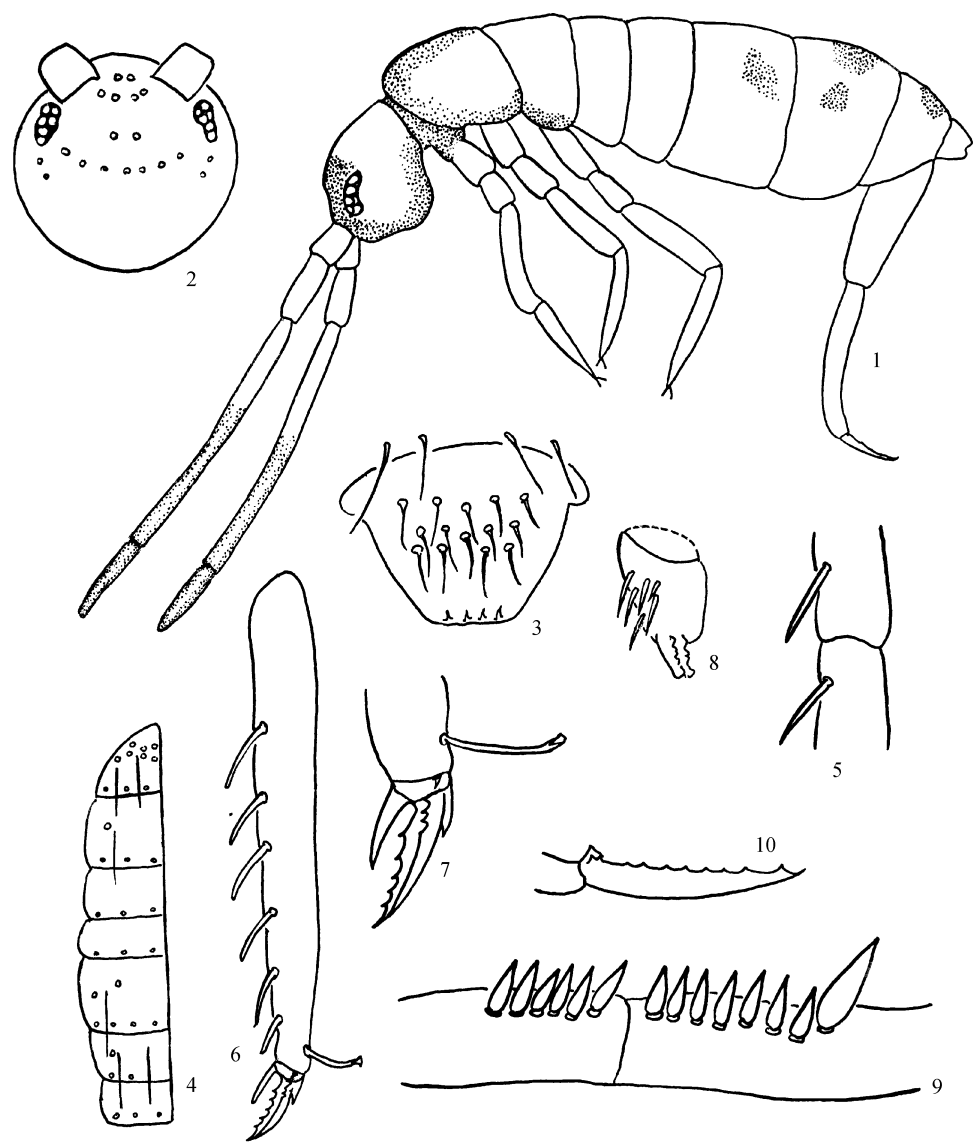
Description. Body length 2.6-3.4 mm (Fig. 11).

Color. Ground color pale yellow. Eye patches dark purple to black. Ant. and Ant. pale purple.

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Figs. 1-10. *Tomocerus (Tomocerus) maculatus* sp. nov. 1. Habitus. 2. Dorsum of head. 3. Labrum. 4. Dorsal chaetotaxy of body (Th. -Abd.). 5. Trochanteral organ. 6. Hind tibiotarsus and hind claw. 7. Detail of hind foot complex. 8. Tenaculum. 9. Dental spines. 10. Mucro.

Table 1. Comparison between *T. (T.) maculatus* sp. nov. and *T. (T.) violaceus* Yosii, 1956.

Characters	<i>T. (T.) maculatus</i> sp. nov.	<i>T. (T.) violaceus</i> Yosii, 1956
Arrangement of proximal dental spines	In one row	In two rows
Color pattern on antennae , head and body	Ground color pale yellow. Distal 3/5 of Ant. pale purple. Irregular purple pigment scattered on head , lateral margin of Th. , and . Deep purple bands present on Abd. , and .	Color light gray , sometimes dark violet , with pale stripes upon each tergites . Antennae dark violet all over. Other extremities pale .
Dental spine formula	6-7/7-9 .	6-9/4-5 .

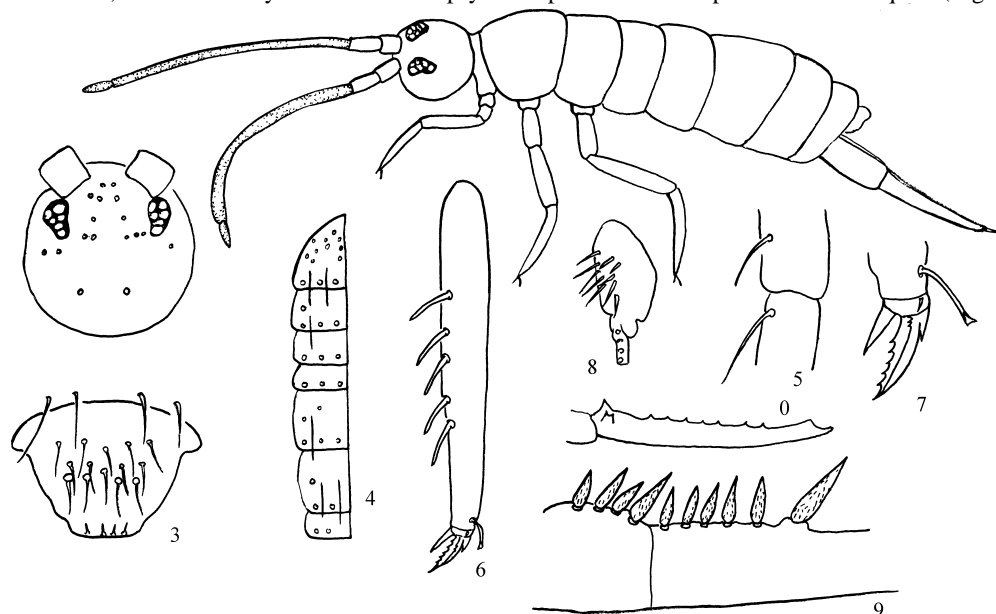
Head. Eyes 6 + 6 , almost subequal. Antennae 0.61-0.65 times as long as body and 3.8-4.0 times as long as head. Ant. and Ant. annulated. Ratios of Ant. - = 1.0 1.5-1.9 7.6-9.4 1.6-1.8. Dorsal macrochaetae of head as shown in Fig.12. Dorsal posterior margin of head with one row of about 58 tiny setae. Labral setae 4/5 , 5 , 4 , all smooth ; each of distal 3 rows beset on papilla. Anterior margin of labrum with 4 recurved spines (Fig. 13).

Thorax. Macrochaetae and bothriotricha as shown in Fig. 14. Tibiotarsus with many pointed smooth setae of different size ; ventral side with 6 , 6 , 5-6 large blunt spiny setae respectively on legs - (Fig. 16). Unguis slender with a pair of pseudonychia 0.47-0.65 times as long as inner edge of unguis ; inner teeth 5 , 5 and 5 respectively on legs - . Unguiculus lanceolate without inner tooth or outer tooth. Tenent hair thick , 0.80-1.06 times as long as inner edge of unguis , apex spatulate

(Fig. 17). Trochanteral organ reduced to 1, 1 seta (Fig. 15).

Abdomen. Tenaculum unscaled, with 4 + 4 teeth; and 10 smooth setae on corpus (Fig. 18). Ventral tube unscaled, with numerous smooth setae in different size on all sides. Ratios of manubrium/dens/mucro = 2.5-2.9/4.0-4.7/1.0. Manubrium scaled, dorsolaterally with 11 large setae on each side, all moderately ciliate and sharply

tapered near apex; dorsally with two setaceous stripes. Dentes without large setae on outer edge and basal scalelike spine on inner edge. Dental spines simple, dark brown, formula as 4-5/3-6, (Fig. 19). Proximal spines arranged in one row. Mucro elongate covered with ciliate setae; outer basal tooth with a corner toothlet. Outer dorsal lamella with 6-7 intermediate minute teeth; apical and anteapical teeth subequal (Fig. 20).



Figs. 11-20. *Tomocerus (Tomocerus) asoka* Yosii et Ashraf, 1965. 11. Habitus. 12. Dorsum of head. 13. Labrum. 14. Dorsal chaetotaxy of body (Th. -Abd.). 15. Trochanteral organ. 16. Hind tibiotarsus and hind claw. 17. Detail of hind foot complex. 18. Tenaculum. 19. Dental spines. 20. Mucro.

Specimen examined. 3♂, 33♀, China, Tibet, Baqin (32.2°N, 93.4°E), 4200 m, 16 Sept. 1995, collected by HUANG Fu-Sheng (IZCAS).

Distribution. China (Tibet); Pakistan.

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中国鳞弹尾目一新种及一新纪录种记述 (弹尾目, 鳞弹尾科)

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摘要 记述弹尾目 Collembola 鳞弹尾科 Tomoceridae 鳞弹尾属 *Tomocerus* 1 新种, 即斑点鳞弹尾 *Tomocerus (Tomocerus) maculatus* sp. nov. 和 1 新纪录种, 即巴地鳞弹尾 *Tomocerus (Tomocerus) asoka* Yosii et Ashraf, 1965. 新种模式标本保存于中国科学院动物研究所。

斑点鳞弹尾, 新种 *Tomocerus (Tomocerus) maculatus* sp. nov. (图 1~10, 表 1)

体长 2.3~3.1 mm。

关键词 弹尾目, 鳞弹尾科, 鳞弹尾属, 新种, 新纪录种, 中国。
中图分类号 Q969.4

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Yosii, R. 1967. Studies on the Collembolan family Tomoceridae, with special reference to the Japanese forms. Contributions from the Biological Laboratory Kyoto University, 20: 1-54.
Yosii, R. and Ashraf, M. 1965. On Some Collembola of West Pakistan. Pakistan Journal of Scientific Research, 17 (3-4): 153-160.

正模 吉林长白山 (42.0°N, 128.1°E), 1100 m, 1980-08-03, 黄复生采 (IZCAS)。副模 1, 记录同正模; 1, 吉林二道白河 (42.4°N, 128.1°E), 700 m, 1981-08-04, 黄复生采 (IZCAS)。

新种与 *T. (T.) violaceus* Yosii, 1956 相似, 但齿刺基部排列方式, 触角、头部和身体上色素分布等不同。

词源: 种名意指腹部 3, 4, 5 节上的斑块。